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EXAMINER	
THAKUR, VIREN A	

ART UNIT	PAPER NUMBER
1761	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/621,190	PERSOONS, GUSTAAF	
	Examiner	Art Unit	
	Viren Thakur	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-11 and 13-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-11 and 13-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The rejection of claims 10-11 and 13-15 under 35 U.S.C. 112, first paragraph has been withdrawn.

2. The rejection of claim 1 under 35 U.S.C. 112, second paragraph has been withdrawn.

3. The rejection of claims 1-2, 4-5, and 7 under 35 U.S.C. 102(b) as being anticipated by Lagerstedt (US 6177048) has been withdrawn.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claims 1-5, 7-11, and 13-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.**

The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Amended claims 1, 10 and 16 recite the limitation wherein said pressure schedule comprising a plurality of predetermined control pressure values, each control pressure value corresponding to a control temperature value included in the temperature schedule and being less than a theoretical pressure based on the corresponding control temperature value." The Examiner respectfully asserts that the subject matter of the claims still requires further clarification as to how the control pressure within the vessel can be less than the theoretical pressure. As stated in the prior Office Action, mailed February 7, 2007, at any point when the control pressure

is reduced within the vessel the theoretical pressure, as the sum of the vapor pressure and the air pressure, will inherently also change. Thus, although the actual control pressure could be lowered below the theoretical value, the theoretical pressure at that instant when the control pressure is reduced would also be adjusted so that the theoretical and control pressure would still be equal. Although it is understood that a pressure regulator could reduce the pressure inside the vessel by removing air from the vessel, the theoretical pressure, as stated in the claims, would also have changed based on the presence of less air in the vessel, thus making the actual pressure in the vessel and the theoretical pressure equal.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 1-5 and 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Instant claim 1 recites the limitation "the control temperature within the vessel." There is insufficient antecedent basis for this limitation in the claim. The limitation from which "the control temperature within the vessel" would claim basis does not state that the control temperature is that of the vessel, but only states a control temperature.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-2, 4-5, 7-11, 13 and 15-21 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Dodrill (US 5283033) in view of Lagerstedt (US 6177048 B1).

The references and rejection are taken as cited in the prior Office Action, mailed February 7, 2007.

Regarding the new limitations to instant claims 1, 10 and 16, Dodrill teaches actively reducing the control pressure within the vessel for the purpose of preventing the container from irreversibly collapsing or expanding, and the temperature within the vessel is also measured at this point to ensure that the container does not irreversibly expand or collapse (Column 7, Lines 31-40). During cooling, Dodrill further teaches reducing the control temperature within the vessel, as shown in Figure 1, Item 12; Figure 2, Item 18 and Column 6, Lines 9-12, since Dodrill teach wherein the pressure and temperature of the *vessel* are controlled dependent on the *container* pressure and temperature. Dodrill further teaches calculating the pressure during the phases of a retort process (Column 4, Lines 57-61) and using the pressure and temperature of the containers for determining the corresponding temperature and pressure (Column 2, Line 65 to Column 3, Line 2) to be used for the vessel for the purpose of preventing the package from collapsing (Column 3, Lines 9-11). The control temperature is also a basis for determining the control pressure for the vessel since it is used to calculate the pressure of the container, as can be seen in the equations of Dodrill (Column 7, Line 30; Column 11, Equation 8; Column 12, Equation 9). This provides motivation to one having ordinary skill in the art that temperature and pressure values would have been calculated for the container, and thus the vessel, in order to determine the corresponding vessel temperature and pressure that would have prevented deformation of the package. This is further supported by Dodrill on Column 8, Lines 9-13, which teaches maintaining the integrity and shape of packages by lowering the temperature and pressure of the vessel to permit expansion of the container. Nevertheless, the predefined temperature and pressure schedule that is used to control the pressure and temperature within the vessel is based on the calculated temperature and pressure within the container (Column 5, Line 53 to Column 6, Line 16). The schedule for the pressure of the vessel is based on the pressure of the container and further set to be less than the pressure of the container for the purpose of preventing the package from collapsing. The calculated value for the pressure is the theoretical pressure, which is dependent on the temperature as can be seen from the equations of Dodrill (Column 7, Line 30; Column 11, Equation 8; Column 12, Equation 9). As also seen in Figures 1 and 2, the experimental calculations (Column 3, Lines 62-64) would have further resulted in a predefined

schedule so that the operator would have been able to actively control the pressure without damaging the packaged product. Therefore, Dodrill teach using calculations to determine the theoretical temperature and pressure to maintain substantial equality between the vessel and the container. Additionally, Dodrill teach wherein the phrase "substantially equal" is considered to have been achieved

> "when the two pressures are maintained *near enough together to prevent the container from irreversibly collapsing or expanding.* The tolerable pressure difference depends on the type of package and its contents. Some pressure difference is actually desirable in some instances. For example, it is sometimes desirable to allow the package pressure to slightly exceed the processing vessel pressure to slightly inflate the package and thus prevent it from collapsing at a vulnerable point, such as a corner" (Column 6, Lines 38-49).

Thus it would have been obvious to one having ordinary skill in the art to maintain lower pressure within the vessel to force an expansion of the container to prevent collapse. As a result, and as previously discussed on the record, a positive pressure with respect to the container would have prevented the ingress of moisture into the paperboard while also preventing irreversible collapse of the container. Based on this teaching, Dodrill still teach a pressure within the vessel less than a theoretical pressure based on the corresponding control temperature value since Dodrill teaches lowering the pressure within the vessel, compared to the temperature and pressure within the container so as to allow slight expansion of the container (Column 12, Lines 64-69).

Dodrill does not teach using a paperboard container to contain the food product.

Lagerstedt teaches using a method for sterilizing a food product contained within paperboard container for the purpose of preserving the freshness of the product therein.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Dodrill to incorporate a sterilization method wherein a paperboard container within which is contained a food product as taught by Lagerstedt for the purpose of providing a cheap and abundant material from which to package a product. Although it is known that moisture absorbance is an issue with paperboard containers, Dodrill teaches the equalization of pressure between the inside of the flexible packaged container and the sterilization vessel. Maintaining a pressure differential or equalization will prevent moisture from being absorbed into the container. Dodrill further teaches an invention of constantly determining said container's internal pressure to the pressure of the vessel for the purpose of preventing damage to the container. Thus it would have been obvious to a person having ordinary skill in the art that Dodrill can use a flexible package comprised of paperboard.

11. **Claims 3 and 14 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Dodrill (US 5283033) in view of Lagerstedt, as applied to claims 1-2, 4-5, 7-11, 13 and 15-21, above, and in further view of McHenry et al. (US 4667454).**

The reference and rejection are taken as cited in the prior Office Action and in light of the discussion above.

Response to Arguments

12. Applicant's arguments on page 13 that unlike Dodrill, which teaches controlling the pressure within the vessel according to a calculated pressure inside the package based on several temperatures inside the package, Claim 1 recites that the pressure within the vessel is controlled according to a theoretical pressure in the vessel based on a single temperature inside the vessel has been fully considered but is not persuasive. The Examiner respectfully asserts that the instant claim recites reducing the control pressure within the vessel according to a plurality of predetermined control pressure values, each control pressure value corresponding to a control temperature value included in the temperature schedule and being less than a theoretical pressure based on the corresponding control temperature value. Thus, the instant claim states reducing the control temperature within the vessel according to a predefined temperature schedule wherein the temperature schedule comprises a plurality of predetermined control temperature values. The Examiner respectfully asserts that the claim does not recite a single temperature within the vessel, but states regulating the interior conditions of the vessel using a control temperature and a predefined temperature schedule comprising a plurality of predetermined control temperature values. The reduction in pressure is based on the corresponding control temperature value (of the predetermined temperature schedule), and the control temperature and pressure schedules only need to comprise a plurality of predetermined control temperature and pressure values, which is not commensurate with Applicant's arguments that the pressure within the vessel is controlled according to a theoretical pressure in the vessel. The theoretical pressure is based on the corresponding control temperature. The corresponding control temperature is "a control temperature" used to regulate the interior conditions of the vessel. Thus Applicant's arguments are not commensurate in scope with the claims. Even further still, the claim states "regulating the interior conditions of the vessel using a control temperature." In this case, Dodrill teaches using a control temperature, which is used to regulate the interior conditions of the vessel such as the pressure (and vice versa), so that the container to be sterilized does not irreversibly expand or collapse, as discussed in the rejection in paragraph 10, above.

As further discussed above in paragraph 10, Dodrill teaches a control temperature, which is then reduced according to a predefined schedule, comprising predetermined control temperature values. These values would have inherently have been present in Dodrill, since Dodrill teach providing temperature measurements throughout the process and further teach verifying the sterilization of each product before mass production (Column 2, Lines 62-64). Even further still, by calculating the temperature and pressures at each stage of the sterilization process, Dodrill teaches predetermining the temperature and pressure for the vessel so as to prevent irreversible collapse of the container. The predetermined control temperature of the vessel would inherently have corresponded with the control temperature of the container of Dodrill, since Dodrill teaches preventing irreversible expansion by maintaining a substantial equality between the vessel and the container. As discussed above, Dodrill teaches that substantial equality does not mean equal pressures but rather preventing irreversible expansion (or collapse) of the container.

Applicant argues on page 14 that Dodrill teach away from the limitations of Claim 1 by using the highest temperature of the contents for the water vapor partial pressure calculations, which is more accurate and effective than using the average temperature of the contents. Applicant further states that "one of skill in the art would not be motivated to actively control the pressure in the vessel according to a theoretical pressure based on the temperature inside the vessel because doing so would inherently entail using an average temperature of the steam and the air in the vessel. Because Dodrill teaches that using a similar method for determining the pressure inside the container is "less accurate, and consequently less effective," one would not be motivated to use this method for determining the pressure inside the vessel."

This argument has been fully considered but is not persuasive. The Examiner respectfully asserts that even if using an average temperature was considered less accurate, this is not a teaching away since the reference teaches that using an average temperature is a means for calculating the internal package pressure. Additionally, Applicant's argument seems to contradict Applicant's statement on page 12 that Dodrill teaches using an average temperature is used to calculate the partial pressure of the air (See also Column 6, Lines 4-6). As stated by Applicant regarding Dodrill, use of the highest temperature is considered a control temperature. Clarification is requested regarding this argument. The Examiner is further unclear as to how the average temperature of the steam and the air relates to carrying out Applicant's invention, since the claims recite, "regulating the interior conditions of the vessel using a control temperature and a control pressure."

Regarding Dodrill, the Examiner asserts that Dodrill teaches wherein a margin of error would have been maintained so as to avoid deformation of the package (Column 12, Lines 54-59). Thus, depending on the type, size and thickness of the package, one having ordinary skill in

the art would have recognized that there would have been a difference between the calculated pressure and the actual pressure maintained within the vessel. Furthermore, on column 12, lines 64-67, Dodrill teach wherein depending on the type of containers, there is a tendency for the trays to indent or shrink. To prevent this type of "collapse," Dodrill further teaches wherein the pressure within the vessel should be reduced so as to maintain a greater pressure within the container as compared with the vessel (Column 12, Lines 64-67). Thus, Dodrill teach a pressure of the vessel below an expected calculated pressure and irrespective of temperature. By adjusting the pressure to prevent this collapse, Dodrill would have been actively controlling the pressure in the vessel to a value less than the pressure in the container. In addition, Dodrill provides further evidence of applying pressure irrespective of the temperature within the vessel, on column 17, lines 36-42. In this embodiment, the pressure is determined as a function of time as opposed to temperature. Thus Dodrill further teaches a second embodiment where the pressure does not rely on theoretical calculations and temperature dependencies.

The theory behind the collapse or expansion of a container during sterilization would have been well known by one having ordinary skill in the art: a positive pressure differential within the container would have caused the container to expand; while a negative pressure differential within the container would have caused the container to collapse. These pressure differentials also would have prevented the passage of air or moisture into the container. To one having ordinary skill in the art, this theory of preventing the entrance of a material is fundamental to pressure differentials. Thus, regardless of whether Dodrill explicitly discloses preventing the ingress of water, during cooling by maintaining a positive pressure within the container as compared to the pressure in the vessel water would naturally have been prevented from entering the container, since this is natural phenomenon of pressure gradients. In addition, during cooling of a sterilized container, it has been well known that the reduction of pressure requires control so as to prevent the permanent collapse. In light of this, it would have been obvious to one having ordinary skill in the art to prevent the collapse of the container, or to prevent the passage of moisture or any material into the container for the purpose of maintaining a sterile environment and to prevent damage to the container – regardless of the type of container. Therefore, for the reasons discussed above and given the teachings of one having ordinary skill in the art, to maintain a positive pressure within the container that does not follow a particular schedule would have been obvious to one having ordinary skill in the art.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viren Thakur whose telephone number is (571)-272-6694. The examiner can normally be reached on Monday through Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571)272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Viren Thakur
Examiner
Art Unit: 1761

KEITH HENDRICKS
PRIMARY EXAMINER